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THE RATTLE OF THE RATTLESNAKE.

BY PROFESSOR SAMUEL AUGHEY.

I wish to contribute my observations on the rattlesnake, having been specially favored in opportunities for the study of this reptile.

Of all the articles that have appeared on the subject in the *NATURALIST* that by Mr. Putnam* appears to me to present the most satisfactory theory concerning the use of the rattles. I am satisfied that *one* of their uses is to bring the sexes together.

In July, 1869, I was engaged in surveying along the Logan river in Wayne County, Nebraska. After completing my contract I devoted a day to investigating the natural history of the neighborhood. While washing a collection of unios at the water's edge, I heard the familiar rattle of the Massasauga (*Crotalophorus tergeminus*). I quietly crept up the bank and cautiously looking over the level bottom I saw, at the distance of about thirty feet, a rattlesnake coiled up with head erect and gazing in an opposite direction from my position. Every three or five minutes the snake would cease rattling for a minute or more and then commence again. In about half an hour from the time that I first saw the snake I observed another rattlesnake approach the first one. Closer and closer the second one approached, until at length they met and indulged in a sexual embrace. I watched them for at least an hour and left them at last without disturbing them.

The next year at the Bow river in the same state I saw the same thing repeated under similar circumstances. In neither case could I ascertain whether it was the male or female that gave the call.

I am satisfied that the theory† that the rattle resembles the noise made by the Cicada, and that it is employed because of this resemblance to entrap birds, etc., is a mistake. I have been accustomed to the sound of the Cicada and the rattle of the rattlesnake from my youth, and soon learned to distinguish them, although there is betimes a striking resemblance between them. My familiarity with them was gained in my native state amid the Alleghanies of

* *AMERICAN NATURALIST*, Vol. VI, p. 693.

† *l. c.* p. 32.

Pennsylvania. In the last week of June, 1869, I was on the Missouri flood plain in a dense timber in Cedar County, Nebraska. At the time there were many Cicadæ and multitudes of birds in the timber. One day I was sitting on a log, classifying a collection of flowers and plants. Suddenly I heard the well-known rattlesnake rattle. The snake was not more than forty feet from me. I could not have been the cause of its alarm as a large log lay between us and I had been quiet for nearly an hour. Even the Cicadæ were alarmed and disappeared, and soon not a bird was to be seen, but the rattling continued. Unfortunately, on the impulse of the moment, I killed the snake without waiting to see or learn the purpose of its rattling. Again I have noticed that the *Masasauga*, at least in Nebraska, is by far the most abundant far away from the timber, where the Cicadæ are rarely if ever seen.

These observations seem to me to point to the theory that the rattle calls the sexes together. In July, 1871, I was in the timber on the Missouri in Dakota County, Nebraska. I got sight of a Baltimore oriole (rare in Nebraska) which I was following as it flitted from twig to twig. As it swept near the ground a rattlesnake struck his highest notes and seemed to paralyze the oriole with fear. This snake was a *Crotalus*. The poor bird hovered near the snake and fearing that it might fall into its jaws I shot the reptile. This experience suggested the theory that perhaps an additional purpose of the rattle was to frighten its victims into submission and to protect itself by the terror it inspires from its natural enemies. However that may be, is it not a mistake to limit such a peculiar organ to any one single purpose? What is needed to determine definitely the natural history of the rattlesnake is closer and more accurate observation over a wide area, and by persons who are fitted by nature and education for such work. Unfortunately for science, the almost universal custom has been to kill the rattlesnake as soon as found, without waiting to learn its disposition and habits of life.

Once in the Dakota Nebraska timber I saw an attack of hogs on a rattlesnake. In a few minutes after the snake commenced rattling, three others made their appearance. They apparently came to the assistance of the first one, but all were killed by the hogs in a few minutes. Seven hogs were more than a match for four rattlesnakes. Here evidently the rattle was used to call for help. These belonged to the genus *Crotalophorus*.